(19) World Intellectual Property Organisation International Bureau



(43) International Publication Date 9 December 2004 (09.12.2004)

PCT

(10) International Publication Number: WO 2004/106459 A1

(51) International Patent Classification7:

C09K 19/34

(21) International Application Number:

PCT/EP2004/005538

(22) International Filing Date:

24 May 2004 (24.05.2004)

(25) Filing Language:

German

(26) Publication Language:

German

(30) Priority Data: 103 24 345.3

27 May 2003 (27.05.2003) DE

- (71) Applicant (for all designated States except US): MERCK PATENT GMBH [DE/DE]; Frankfurter Strasse 250, 64293 Darmstadt (DE).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): KIRSCH, Peer [DE/DE]; Beethovenring 28, 64342 Seeheim-Jugenheim (DE). POETSCH, Eike [DE/DE]; Am Buchwald 4, 64367 Mühltal (DE). HAHN, Alexander [DE/DE]; Grosse Kreisgasse 7, 64521 Gross-Gerau (DE). BINDER, Werner [DE/DE]; Sandweg 3, 64807 Dieburg (DE). MEYER, Volker [DE/DE]; Ahornweg 3, 64846 Gross-Zimmern (DE). HECK-MEIER, Michael [DE/DE]; Gutenbergstrasse 7, 69502 Hemsbach (DE). LÜSSEM, Georg [DE/DE]; Steinbergstrasse 7, 85238 Petershausen (DE). KLASEN-MEMMER, Melanie [DE/DE]; Hauptstrasse 31A, 67259 Heuchelheim (DE).

- (74) Common Representative MERCK PATENT GMBH; Frankfurter Strasse 250, 64293 Darmstadt (DE).
- (81) Designated states (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated states (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: LIQUID-CRYSTALLINE COMPOUNDS

$$R^{11} \longrightarrow O \longrightarrow O \longrightarrow X^{11} \longrightarrow X^{11} \longrightarrow (1)$$

(57) Abstract: The invention relates to liquid-crystalline compounds of the formula (I), where R¹¹, X¹¹, L¹¹, Y and W are as defined in Claim I, and to the use thereof in liquid-crystalline media, to liquid-crystalline media comprising at least one compound of the formula (I) and to electro-optical displays containing a liquid-crystalline medium of this type.